

Troubleshooting guide

PROBLEM: Low output voltage

Possible Cause
MP:120 inverter is overloaded.

Unsure about the appliance rating.

Suggested Remedy
Reduce load, not exceeding MP:120 maximum rating.
(Consider upgrade, RINV300 to 3000).

Check the data label on the appliance or the instructions.
If this is unsuccessful consult the manufacturer.

PROBLEM: Re-occurring low battery shutdown

Possible Cause
Inadequate power or excessive voltage drop.
Poor battery condition.

Suggested Remedy
Check connections from battery to MP:120 inverter.
Replace or charge battery.

PROBLEM: No power output

Possible Cause
MP:120 inverter in thermal shut down condition.
Low battery voltage.
MP:120 inverter blown fuse.
Vehicle blown fuse (DC socket).
Poor DC plug connection.

Suggested Remedy
Remove power and load, allow to cool (10 minutes).
Charge or replace battery.
Check / replace the 15 Amp fuse in the DC plug.
Check vehicle handbook to locate relevant fuse.
Use the DC plug switch to ensure a good connection.

PROBLEM: Liquid ingress

Possible Cause
Drinks spillage.

Suggested Remedy
Unplug the MP:120 inverter and wipe immediately with a
dry cloth (Permanent damage can occur with liquid ingress).

PROBLEM: No power output from USB socket

Possible Cause
Appliance is not rechargeable

USB not inserted correctly

Suggested Remedy
Check appliance is rechargeable and uses
rechargeable batteries.
Check connections are the correct way up with
the USB symbol facing up on the USB plug.




SPECIFICATIONS

PowerSource Model	MP:120 inverter
Part Number	RINV120
Max. Continuous power (Watts)	120w (30 mins) 100w (4 hours)
Peak Power (Watts) 0.01 Seconds	240w
Standby current (Amps)	<0.2A
Waveform	Modified Sine Wave
Efficiency*	90%
Input Voltage Range	10v – 15v DC
AC Socket	3 Pin mains 230v AC
USB socket	USB2 DC5v / 150mA
Cooling Fan	Yes / Continuous
Product Dimensions (mm) (D x H x W)	30 x 105 x 75
Pack Dimensions (mm) (D x H x W)	55 x 180 x 185
Coiled Cable length (mm)	650 (extended length)

*Percentage of battery power to mains voltage power.

CE approved

This inverter should only be used to power Class II (non earthed) products, identified by the symbol: 



MP:120

Compact Inverter

12v DC to 230v AC Mains Inverter
RINV120

User Manual

www.ringautomotive.co.uk

RETAIN THESE INSTRUCTIONS
FOR FUTURE REFERENCE

Introduction

The Ring MP:120 inverter is an electronic device that converts a low voltage 12v DC current from a battery, or other power supply and provides 230v AC current.

Special attention should be made to CAUTION statements in this user manual.

CAUTION statements identify conditions or practices that could result in damage to your MP:120 or to the equipment you are using with it.

CAUTION

- Do not exceed the maximum input voltage (15 Volts DC).
- Improper use of the MP:120 inverter can cause damage to property and possibly harm to the user.
- The MP:120 contains no user serviceable parts – Do not open.

Power Supply

The battery or power supply must provide between 10.5 and 14.5 Volts DC (a car battery will usually provide this) and must be able to provide sufficient current to operate the load (the item you require to power).

The power supply used may be a battery or a regulated DC power supply. In order to find out if your power supply is large enough, divide the power consumption of the load (in watts) by the voltage (12v in the case of the MP:120 inverter) this will give you the current (in amps) that the power supply must deliver.

EXAMPLE: Load is rated at 48W / 12v = 4 Amps

Connecting to your power supply

Connect the DC plug on the MP:120 inverter to the vehicle battery by plugging directly into the 12v DC socket (cigarette lighter socket). The LED power monitor illuminates green when power is on. The MP:120 must only be used on vehicles where the centre contact of the cigarette lighter socket holder is positive. Ensure the load requirements are within the specification (max 120w) of the MP:120 output. Plug your appliance into either the 3 pin or USB socket of the MP:120 inverter.

Positioning of the MP:120 inverter

Included in the pack are two pieces of hook and eye tape to allow for the most suitable positioning of the MP:120 inverter in your vehicle. By use of the hook and eye tape the MP:120 can be removed from the vehicle when left unattended.

When positioning the following points should be noted:

CAUTION

- The MP:120 inverter is not waterproof.
- Take care if adjacent drinks holders contain or have contained liquids.
- The MP:120 should be used in a ventilated area.
- Do not obstruct the vents at the front and side of the MP:120.
- Do not put the MP:120 on or near sources of direct heat or expose to direct sunlight.
- Do not operate the MP:120 in or around flammable environments.
- Ensure cables and leads connected to the MP:120 do not interfere in the safe operation of the vehicle.
- When not in use store securely in a cool, dry dust free environment.
- Do not leave connected to 12v DC socket unattended.
- Remove from 12v DC socket when not in use as the unit will continue to draw 0.4 Amps stand-by current.
- Do not operate continuously for more than 4 hours.
- Do not use the power lead to move or carry the MP:120.
- The USB socket is for charging only, **NOT** data transfer.

Operating Tips

NOTE: The MP:120 inverter is not designed to run products that provide heat, such as hair dryers, heaters and irons.

- Do not handle the MP:120 inverter with wet hands or if it has come into contact with liquid.
- Ensure while driving all accessories powered by the MP:120 inverter are positioned securely.
- Do not use distracting accessories such as mobile phones whilst driving.
- To ensure optimum performance from the MP:120 adjust the DC plug switch for the correct fit in the vehicle's DC socket.
- Ensure the USB plug is inserted correctly in the socket. With the USB symbol facing up.
- The MP:120 uses a USB2 type socket and will therefore charge USB1 & USB2 devices.

Maintenance

Cleaning

- Only clean the MP:120 inverter using a clean dry cloth.
- Do not use cleaning products.
- Ensure the USB socket is clear of any dust or other debris before connection.

Fuse Replacement

- The fuse is located in the MP:120 DC plug. Unscrew the end of the DC plug and extract the 15 Amp fuse. Check the fuse and replace if necessary with an equivalent 15 Amp fuse.

Protective features

Auto shutdown – The MP:120 inverter will automatically shut down if the supply voltage is less than 10v. At this point the green LED will go out. The inverter will automatically restart when the input voltage is above 10v.

Overload protection – The MP:120 inverter will automatically shut down if the continuous power draw exceeds the maximum rating.

Short circuit protection via automatic thermal resetting fuse.

Temperature Protection – If the temperature of the internal heat sink reaches >65°C the MP:120 will shut down automatically. Remove from power and allow to reset when cool before using.

Cooling Fan – The internal cooling fan runs continuously once the MP:120 is connected to a power supply, to optimise performance.